

### **ABSTRACT**

In an object detection radar system, dynamically adjusting the gain of a radar during its range sweep cycle, either by tuning its transmitter power or its receiver sensitivity or both, allows a variety of detection pattern shapes to be realized. Adjusting the gain is done by using a plurality of different gain corrections, which are applied in the sweep cycle at different ranges. Thus, certain types of detection patterns, as controlled through a setting feature or via a user interface, may be realized by incorporation of an internal microcontroller and associated embedded program into an object detection radar system.